



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,776	03/14/2005	Ercan Ferit Gigi	NL 020859	1796
24737 7590 07/24/2008 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510				
EXAMINER				
LENNOX, NATALIE				
ART UNIT		PAPER NUMBER		
2626				
MAIL DATE		DELIVERY MODE		
07/24/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/527,776

**Applicant(s)**

GIGI, ERCAN FERIT

**Examiner**

NATALIE LENNOX

**Art Unit**

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 March 2008.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.  
4a) Of the above claim(s) 10 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-9 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 24 March 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This Office Action has been issued in response to the amendments filed on March 24, 2008. Claims 1-9 are pending with claims 1 and 4-8 amended.

#### ***Drawings***

1. The drawings were received on March 24, 2008. These drawings are acceptable.

#### ***Response to Arguments***

1. Applicant's arguments filed March 24, 2008 have been fully considered but they are not persuasive.
2. Regarding applicant's arguments with respect to the 35 U.S.C. §101 rejection of claim 8, applicant argued "amended claim 8 clearly recites data being stored on a computer-readable storage medium, which data imparts function to a computing device." Examiner respectfully disagrees first of all given that nowhere in claim 8 is a computer-readable storage medium claimed. Claim 8 reads "computer readable medium including code to be executed on a computing device," and just by stating that the medium includes code does not make the claim statutory given that it is not particularly stated that it is stored on it. Further, a "computer readable medium" is not described or mentioned in applicant's disclosure, therefore the type of medium may comprise a signal which makes the claim non-statutory, it also introduces new matter.

3. Applicant's arguments, see Remarks pages 7-9, filed March 24, 2008, with respect to the rejection(s) of claim(s) 1, 3, 8, and 9, under U.S.C. 35 §103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Abe et al. (US Patent 5,581,652) and Hardwick (US Patent 6,377,916).

***Claim Rejections - 35 USC § 101***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claim 8 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

With respect to claim 8, applicant claims "a computer readable medium including code to be executed on a computed device," however the disclosure provides no mention or description of a "computer readable medium." If not specified otherwise, a computer readable medium may consist of forms of energy. Energy does not fall within a statutory category since it is clearly not a series of steps or acts to constitute a process, not a mechanical device or combination of mechanical devices to constitute a machine, not a tangible physical article or object which is some form of matter to be a product and constitute a manufacture, and not a composition of two or more substances to constitute a composition of matter.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claim 8 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. As amended, claim 8 cites "a computer readable medium including code to be executed on a computing device," however no such "computer readable medium" is mentioned or described in applicant's disclosure, therefore consists of new matter.

### ***Claim Objections***

8. Claim 1 is objected to because of the following informalities: Line 10 cites the limitation "the resulting pitching bell," however there is lack of antecedent basis since neither a "resulting" pitch bell is claimed previously, nor a "pitching" bell. Claim language should be consistent. For purposes of examination, examiner interprets the "resulting pitching bell" to refer to the pitch bell provided at step d). Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

9. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

10. Claims 1-4 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al. (US Patent 5,581,652), hereinafter Abe, in view of Hardwick (US Patent 6,377,916).

As per claims 9, 1, and 8, Abe teaches a computer system, method, and computer readable medium for synthesizing a signal comprising the steps of:

a) determining a required pitch bell location in the domain of the signal to be synthesized (Col. 7, lines 23-46, more specifically lines 33-44. It is noted that Abe does not specifically mention determining the pitch bell location in the signal to be synthesized, however, it would have been obvious to a person having ordinary skill in the art at the time of the invention that the signal to be synthesized (wideband speech signal) is reconstructed (Col. 7, lines 43-44) by placing the extracted "representative waveform segments" (Col. 7, lines 35-38) in a desired location. Also, Col. 7, lines 10-22, more specifically lines 20-22),

b) mapping the required pitch bell location onto an original signal to provide a first pitch bell location (Col. 9, lines 6-10, start point selector 705).

c) randomly shifting the first pitch bell location to provide a second pitch bell location (Col. 9, lines 6-10 and Col. 7, lines 10-22),

d) windowing the original signal on the second pitch bell location to provide a pitch bell (Col. 9, lines 6-10),

e) placing the resulting pitching bell at the required pitch bell location in the domain of the signal to be synthesized (Col. 7, lines 23-43, more specifically lines 23-26 and 33-43. Also, Col. 7, lines 10-22), and

f) repeating the steps a) to e) for all required pitch bell locations of the signal to be synthesized and performing an add operation on the resulting pitch bells in the domain of the signal to be synthesized in order to synthesize the signal (Col. 9, lines 6-10 and lines 15-30, more specifically lines 26-30).

However, Abe does not specifically mention

performing an overlap and add operation on the resulting pitch bells in the domain of the signal to be synthesized in order to synthesize the signal.

Conversely, Hardwick teaches

performing an overlap and add operation on the resulting pitch bells in the domain of the signal to be synthesized in order to synthesize the signal (Col. 4, lines 1-5, also ).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the feature of performing an overlap and add operation on the resulting pitch bells in the domain of the signal to be synthesized in order to synthesize the signal as taught by Hardwick for Abe's method because Hardwick provides synthesis of an unvoiced component using a weighted overlap-add method to filter a white noise signal (Col. 4, lines 3-5).

As per claim 2, Abe, as modified by Hardwick, teaches the method of claim 1, wherein the determination of required pitch bell locations is performed by dividing the required length of the signal to be synthesized into time intervals, each of the time

Art Unit: 2626

intervals having the length of a pitch (Col. 7, lines 10-17 and lines 23-26, the wideband speech signal representing the signal to be synthesized.).

As per claim 3, Abe, as modified by Hardwick, teaches the method of claims 1 or 2, wherein the step of randomizing of the first pitch bell location is performed by randomly shifting the first pitch bell location within an interval of +/- the pitch (Col. 7, lines 10-17 and Col. 9, lines 6-10.).

As per claim 4, Abe, as modified by Hardwick, teaches the method of any one of the preceding claims 1 or 2, wherein the step of randomly shifting the first pitch bell location  $i$  to provide the second pitch bell location  $i'$  is performed in accordance with the following equation:

$$i' = i + (Rxp),$$

where  $R$  is a random number between - 1 and + 1 and  $p$  is the pitch (Col. 9, lines 6-10. It is noted that Abe does not specifically mention the use of a random equation, however, it is inherent that in order to obtain the random values a random equation had to be used.).

As per claim 7, Abe, as modified by Hardwick, teaches the method of any one of the preceding claims 1 or 2, wherein the original signal does not have a fundamental frequency, and the original signal preferably comprises unvoiced speech or music (u/v decision 703 from Fig. 10 and Col. 9, lines 6-7).



11. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe (US Patent 5,581,652) in view of Hardwick (US Patent 6,377,916) as applied to claims 1 or 2 above, and further in view of (Window Functions, [http://web.archive.org/web/20010504082441/http://www.cis.rit.edu/resources/software/sig\\_manual/windows.html](http://web.archive.org/web/20010504082441/http://www.cis.rit.edu/resources/software/sig_manual/windows.html)).

As per claim 5, Abe, as modified by Hardwick, teaches the method of any one of the preceding claims 1 or 2, however they do not specifically mention wherein the windowing is performed by mean of a sine-window.

Conversely, Window Functions teaches wherein the windowing is performed by mean of a sine-window ("Half-Cycle Sine Window" on page 2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the feature of wherein the windowing is performed by mean of a sine-window as taught by Window Functions for Abe's method, as modified above, because Window Functions provides a list of known window functions and a person of ordinary skill in the art would have had good reason to pursue any of the known options of windowing functions in order to obtain the predictable result of a window.

As per claim 6, Abe, as modified by Hardwick, teaches the methods of any one of the preceding claims 1 or 2, wherein the windowing is performed by means of the following sine-window function:

$$w[n]=\sin((\pi/m) (n + 0.5)) \quad 0 \leq n < m$$

where m is the length of the window and n is the running index ("Half-Cycle Sine Window" on page 2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the feature of wherein the windowing is performed by mean of a sine-window as taught by Window Functions for Abe's method, as modified above, because Window Functions provides a list of known window functions and a person of ordinary skill in the art would have had good reason to pursue any of the known options of windowing functions in order to obtain the predictable result of a window.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NATALIE LENNOX whose telephone number is (571)270-1649. The examiner can normally be reached on Monday to Friday 9:30 am - 7 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571)272-7602. The fax phone

Art Unit: 2626

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NL 07/17/2008  
/Richemond Dorvil/  
Supervisory Patent Examiner, Art Unit 2626